Powercrete® R-60

Liquid Epoxy

Product Description

Powercrete R-60 is a medium temperature, high-build liquid epoxy coating designed specifically for corrosion protection of buried pipelines coated with Fusion Bonded Epoxy and operating at temperatures upto 140°F (60°C). R-60 is ideally suited for the corrosion protection of girth weld areas on FBE coated pipes, also for valves, fittings, bends and for rehabilitation of pipelines. R-60 is a 2-component, solvent-free epoxy can easily achieve a final dry film thickness of up to 30+ mils (~ 750 microns) in a single coat, without drips or sags. R-60 combines the adhesion, toughness and anti-corrosion properties of epoxy with an ease of application.

Product Applications

- Pipe Bends, Fittings, Valves & Odd Shapes
- Pipeline Repair & Rehabilitation
- Girth Welds / Field Joints
- Directional Drilling
- Water Pipe OD
- Any bare steel structure in need of protection

Product Features & Customer Benefits

- 100% Solids Epoxy
  No V.O.C.s and no isocyanates
- Excellent Mechanical Properties
  Can be used in directional drill and thrust bore applications
- High Build in a Single Application
  Cost saving formulation can build 30 mils in one pass
- Excellent Resistance to Water Immersion
  Can be buried within close contact of seawater and ground waters over a broad pH range
- Same Formula can be Hand or Spray Applied
  Flexibility in difficult to coat field conditions
- Excellent Wetting Properties to Bare Steel
  Exceptional adhesion, cathodic disbondment and soil stress resistance on bare steel

Product Properties

Property	Condition	Test Method	Typical Value	
			US Imperial	Metric
Specific Gravity	(Mixed)	ASTM D-3289-03	1.67	1.67
Compressive Strength		ASTM C-109	14,000 psi	96.55 MPa
Hardness	(Shore D)	ASTM D-2240	85	85
Thin Film Water Absorption	(24 hrs.)	ASTM D-570	0.2 %	0.2 %
Dielectric Strength	(Oil)	ASTM D-149	485 V/mil	19.1 V/micron
Resistance to Acids & Alkalies		ASTM C-581	Excellent	Excellent
Adhesion to : FBE		ASTM D-4541	3,600 psi	24.82 MPa
Bare Steel		ASTM D-4541	4,000 psi	27.58 MPa
Impact Resistance	(35 mils thickness)	ASTM G-14	54 inch lbs	6.3 Nm (6.3 Joules)
Flexibility (Degrees per pipe Ø)	(@ -0ºC (32ºF))	NACE RP-0394	< 0.73 º	< 0.73 º
Taber Abrasion	(CS-17 wheel, wear cycles)	ASTM D-4060-95	972 cycles/mil	38.27 cycles/micron
Cathodic Disbondment				
30 days 75°F (24°C)		ASTM G-8	0.2 inch	5 mm

Product Selection Guide

Maximum Operating Temp	60ºC (140ºF)
Compatible Line Coatings	FBE, CTE
Mixing Ratio	
By Volume	4.8:1 Part A to B
By Weight	100:11.2 Part A to B
Surface Profile	2.5 - 4.0 mils
(Recommended)	63.5 - 101.6 microns
Surface Preparation	SA 2 1/2 SSPC-10 - Near White SSPC-SP5 - White

Color	Maroon/Burgundy
Typical Single Coat Thickness	
Manually Applied	30 mils (0.75 mm)
Spray Applied	30 mils (0.75 mm)
Recoat Interval (Spray)	
@ 21ºC, 70ºF	26 - 83 minutes
@ 65ºC, 150ºF	7 - 10 minutes
Clean Up	Acetone, MEK

Typical Application

Powercrete® R-60

Hand Apply | Spray Apply | Waste Factor

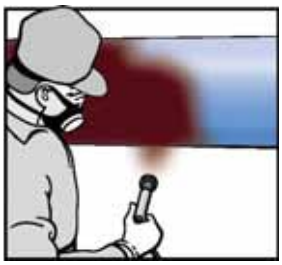
Theoretical Coverage Rates

425 mil-sq. ft./litre
1605 mil-sq. ft./US gallon
1.0 mm-m^2/litre

Recommended Tip Sizes

Tip Size	Pipe Size (DN)	Flow Rates (approx.)
331	to 12" (DN300)	19tip = 1.1 L / min.
419/431	12"-16" (DN300-400)	31tip = 2.8 L / min.
519/531	16"-24" (DN400-600)	
619/631	24"-48" (DN600-1200)	

Note: Fluid pressure at tip approx. 3,500 psi.



(approx.)	
10%	Kit Application
15%	20" + pipe OD
25%	14"-18" pipe OD
35%	2"-12" pipe OD

Temperature Considerations

If the surface to be coated is below 10°C (50°F), preheating of the substrate is recommended. Preheat temperatures should not exceed 93°C (200°F) prior to the application.

Note: The application should only be done when the temperature of the steel is at least 3°C (5°F) higher than the dew point, as recomended by NACE.

Storage & Handling

For optimum performance, store Powercrete® R-60 epoxy products in a dry, well-ventilated area. Maintain products in original packaging and sealed until just before use. Avoid exposure to direct sunlight, rain, snow, dust or other adverse environmental conditions or contaminates.

NOTE:
Avoid prolonged storage at temperatures above 40°C (104°F) or below 5°C (40°F).

Cure Times

Pot Life: 4 Lbs (1.8 Kg) Kit, @ 25°C (77°F)	20 minutes
Spray application	
Gel Time: 40 mils, @ 27°C (80°F)	30 minutes
Dry Time: 40 mils, @ 27°C (80°F)	105 minutes
65 Shore "D" Reading: 40 mils, @ 27°C (80°F)	4.20 hours
75 Shore "D" Reading: 40 mils, @ 27°C (80°F)	5.20 hours
Application Temp Range:	-30 to 100°C
	-20 to 212°F
Shelf Life (stored in specified conditions):	2 years

Ordering Information

Powercrete R-60 is available in three (3) packaging options:

Drum
Part A: 40.4Gal/152.9Ltr (600Lb/272.2Kg)
Part B: 48.4Gl/183L (400Lb/181Kg)

Pail
Part A: 5Gal/19.1Ltr (75 Lb/34Kg)
Part B: 4.8Gl/18.3L (40Lb/18.1Kg)

Kit Option (Part A and B in proper mix ratio by weight)

20 Lbs / 9 Kg	(1.4 Gal / 5.4 L)
10 Lbs / 4.5 Kg	(0.7 Gal / 2.7 L)
4 Lbs / 1.8 Kg	(0.3 Gal / 1.1 L)
2 Lbs / 0.9 Kg	(0.14 Gal / 0.5 L)

PROTECTION ENGINEERING
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